Abstract

Effects of proton pump inhibitors and electrolyte disturbances on arrhythmias.


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BACKGROUND: Several case reports have been written regarding the relationship between the use of proton pump inhibitors (PPI) and hypomagnesemia. Some of these reported cases have electrocardiogram abnormalities where electrolytes deficiencies were the contributing factor for these events.

OBJECTIVE: This study investigates the correlation between different arrhythmias and the use of PPI and hypomagnesaemia incidence.

METHODS: Four-hundred and twenty-one patients admitted to the critical care unit with unstable angina, non-ST elevation myocardial infarction, and ST-elevation myocardial infarction were included in this study.

RESULTS: One-hundred and eighty-four patients (43.8%) received PPI and 237 patients (51.16%) did not, magnesium levels were low (<1.8 mg/dL) in 95 patients (22.5%), and 167 patients (39.6%) developed arrhythmias. The P-values for the regression coefficient association for the use of PPI and the level of magnesium were P = 1.31e(-29) and P = 8e(-102), respectively. The P-values indicate that there is a statistically significant association between the PPI use, magnesium levels, and the occurrence of cardiovascular events, with a strong correlation factor of 0.817.

CONCLUSION: Patients receiving PPIs should be followed closely for magnesium deficiency, especially if they experience acute cardiovascular events, because this may contribute to worsening arrhythmias and further complications.

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